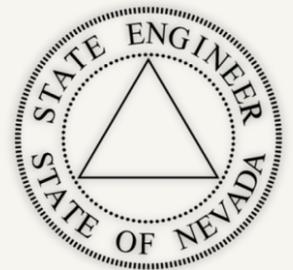


Nevada Division of Water Resources

Humboldt River Basin Update

Lovelock and Winnemucca – April 14
Elko – April 15, 2016



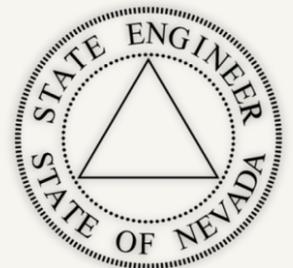
2016 Humboldt River Irrigation Season

Upper Humboldt – April 1 NRCS Forecast

Snowpack in the Upper Humboldt River Basin above Palisade is above normal at 118% of median, compared to 30% last year.

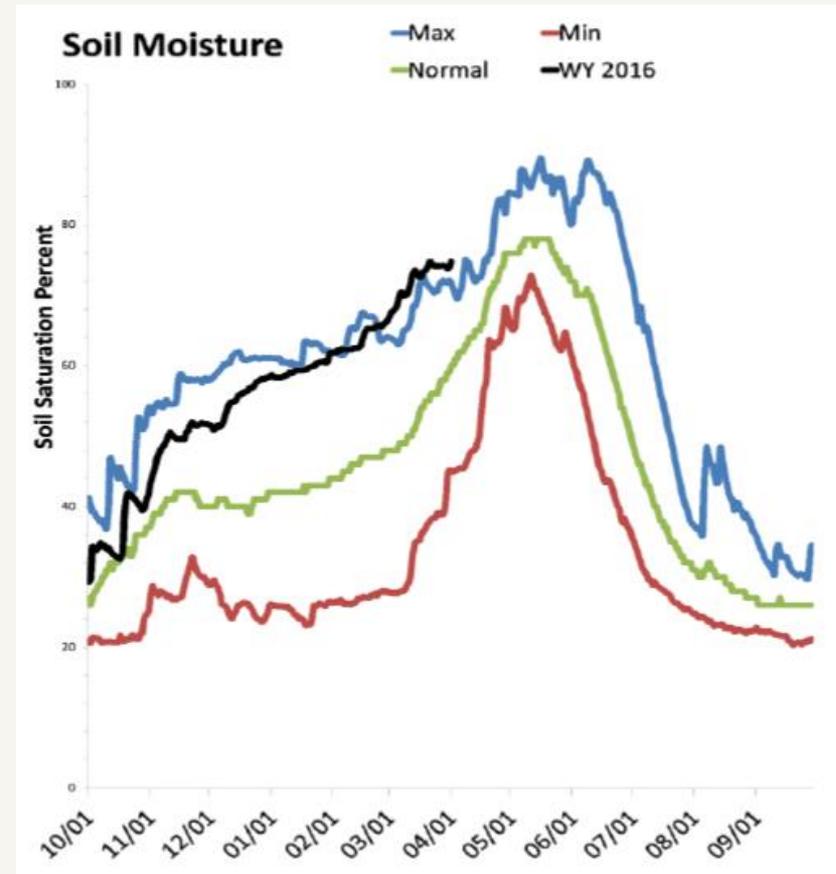
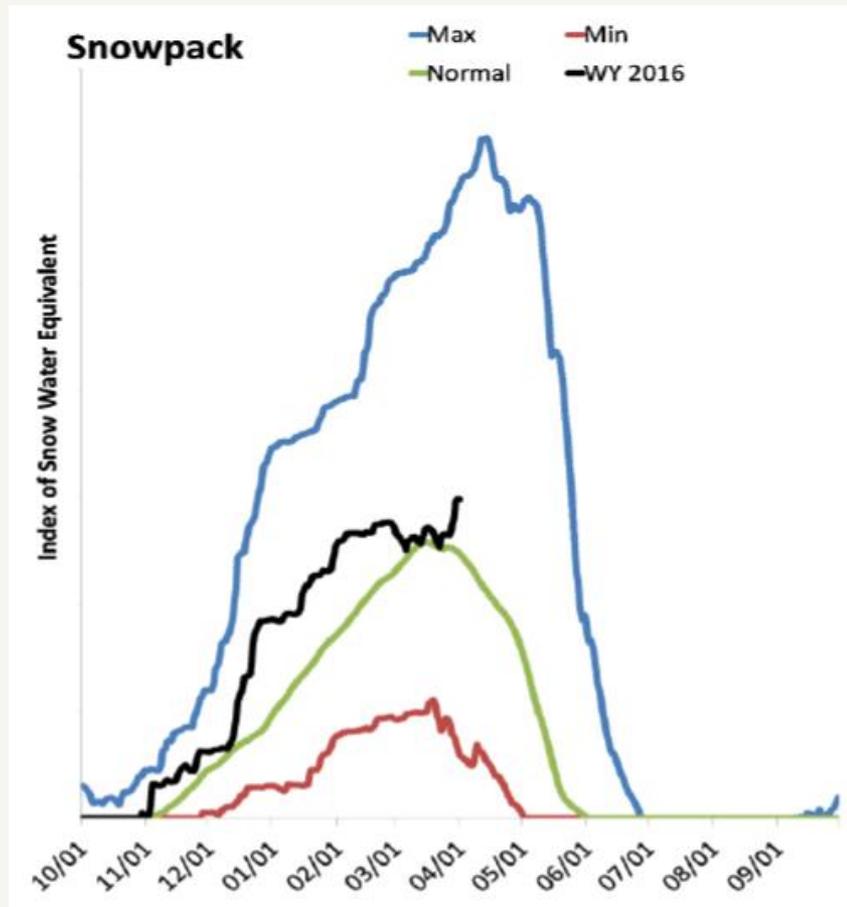
Precipitation in March was above average at 117%, which brings the seasonal accumulation (Oct-Mar) to 122% of average.

Soil moisture is 74% compared to 70% last year. Forecast streamflow volumes range from 110% to 124% of average.



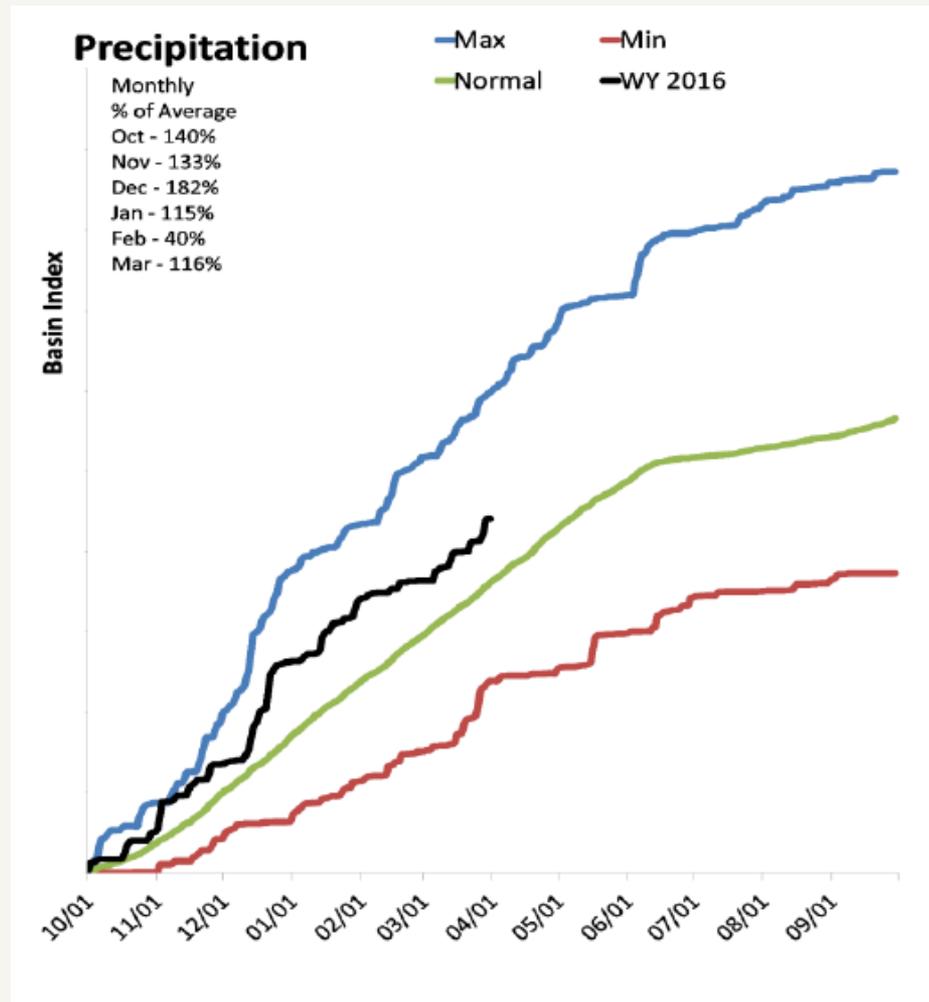
2016 Humboldt River Irrigation Season

Upper Humboldt – April 1 NRCS Forecast



2016 Humboldt River Irrigation Season

Upper Humboldt – April 1 NRCS Forecast



2016 Humboldt River Irrigation Season

Lower Humboldt – April 1 NRCS Forecast

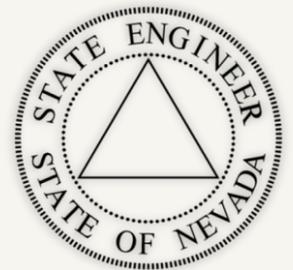
Snowpack in the Lower Humboldt River Basin below Palisade is near normal at 104% of median, compared to 14% last year.

Precipitation in March was above average at 122%, which brings the seasonal accumulation (Oct-Mar) to 120% of average.

Soil moisture is 66% compared to 65% last year.

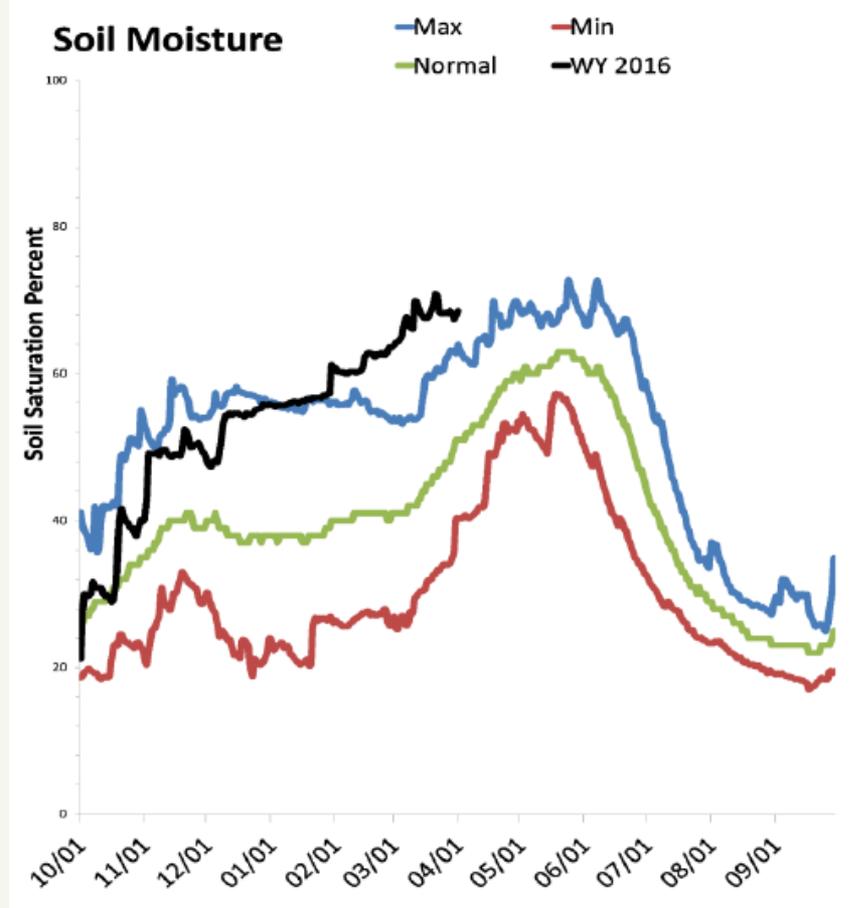
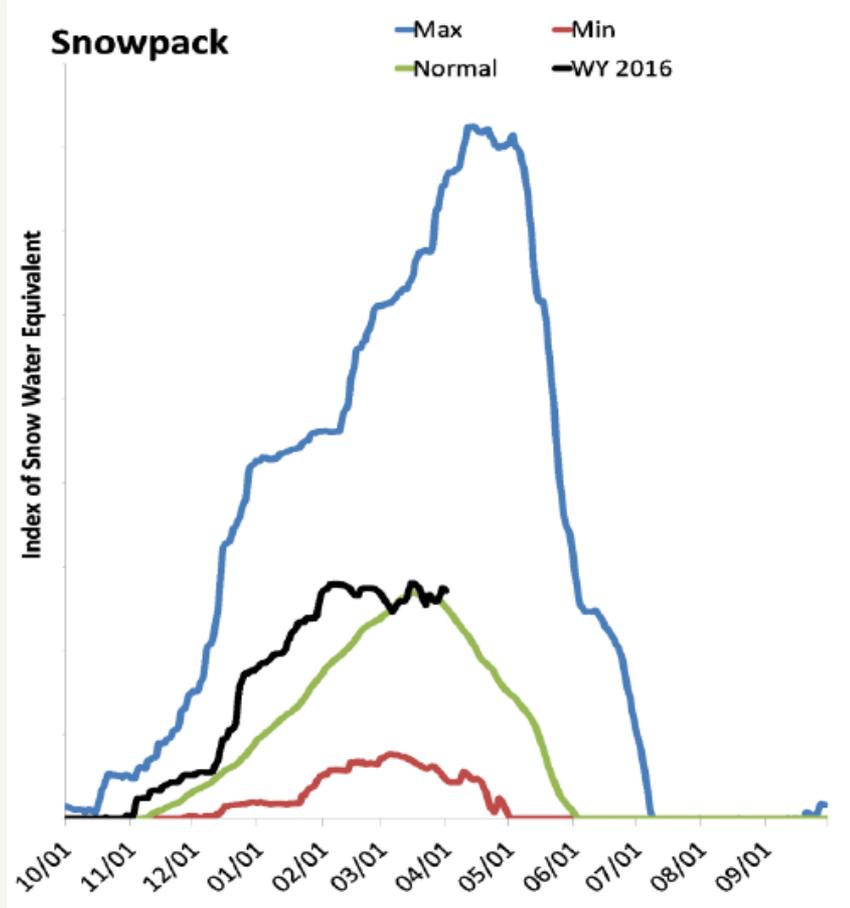
Storage in Rye Patch Reservoir is 17% of capacity, compared to 5% last year.

April – July streamflow forecast ~100% of average.



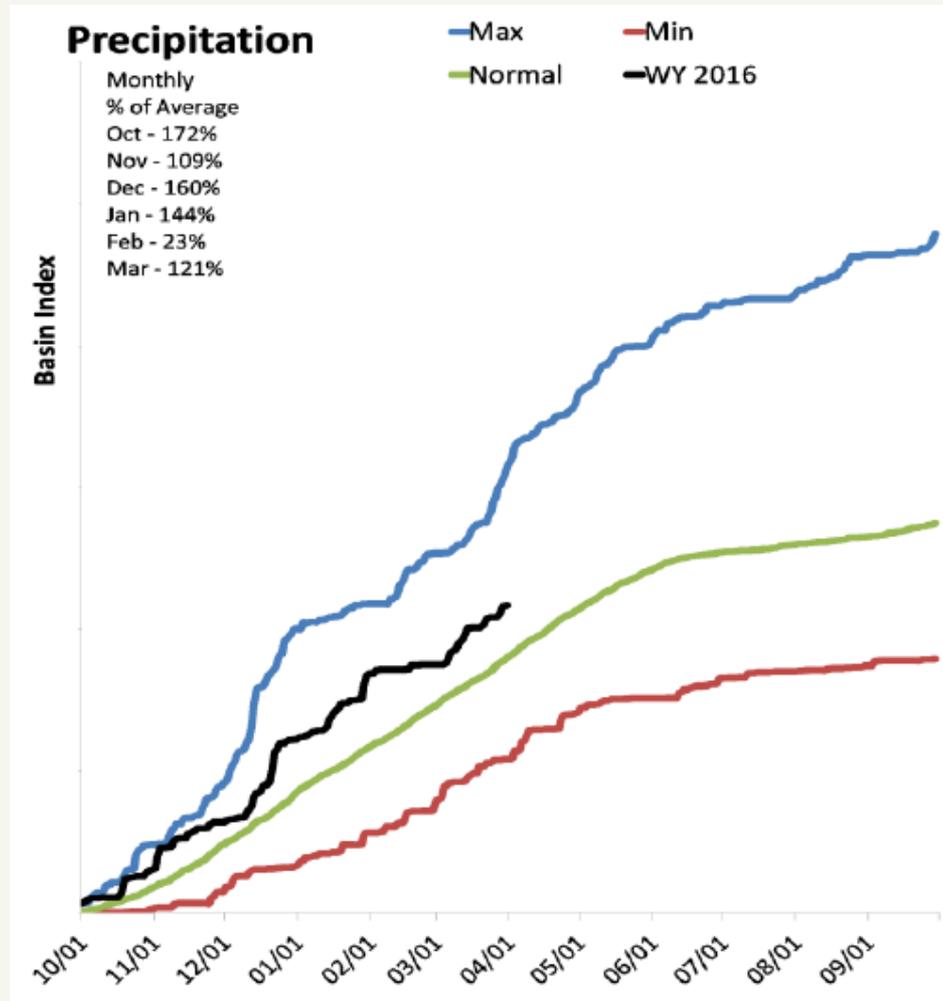
2016 Humboldt River Irrigation Season

Lower Humboldt – April 1 NRCs Forecast



2016 Humboldt River Irrigation Season

Lower Humboldt – April 1 NRCs Forecast



Current Stream Flows/Rye Patch Storage

<http://waterdata.usgs.gov/nv/nwis/current/?type=flow>

April 13, 2016

	Long Term Median Flow (cfs)	Current Discharge (cfs)
Humboldt River at Palisade	627	1120
Humboldt River at Comus	466	737
Humboldt River at Imlay	300	371

	Capacity (KAF)	Current Storage (KAF)
Rye Patch Reservoir (4/11/16)	194.3	33.3

U.S. Drought Monitor

Nevada

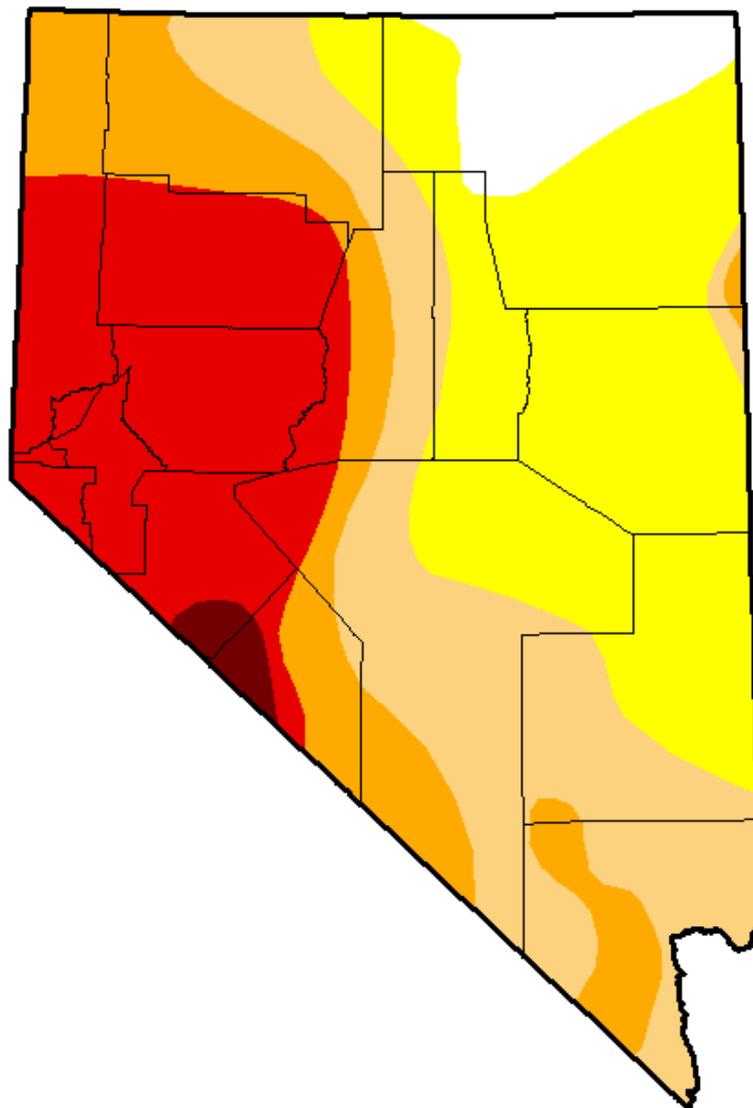
April 5, 2016

(Released Thursday, Apr. 7, 2016)

Valid 8 a.m. EDT

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	6.16	93.84	62.81	38.84	23.20	1.12
Last Week <i>3/29/2016</i>	5.75	94.25	59.30	36.44	23.20	1.12
3 Months Ago <i>1/5/2016</i>	1.34	98.66	90.76	64.40	31.40	9.35
Start of Calendar Year <i>12/29/2015</i>	1.34	98.66	93.08	65.49	31.74	9.35
Start of Water Year <i>9/29/2015</i>	0.00	100.00	94.76	76.08	37.52	15.93
One Year Ago <i>4/7/2015</i>	0.00	100.00	99.93	85.72	47.96	18.38



Intensity:



The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

Author:

Richard Tinker

CPC/NOAA/NWS/NCEP



2016 Humboldt River Irrigation Season

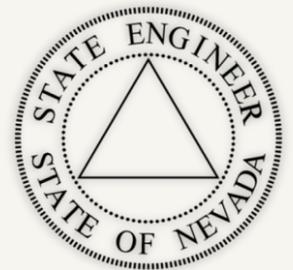
What kind of water delivery to expect:

What Priority?

- Everybody will get some water, but junior users won't get the full amount
- Diversified Pasture will be delivered

Lovelock water users

- Water escaping banks near White House
- Transportation losses – 25% and 15% per permit terms on change applications
- Issues related to physical channel changes
- Channel clearance

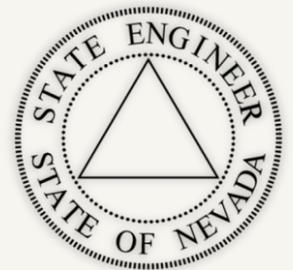


2016 Humboldt River Irrigation Season

Water delivery issues



Iron Point Area

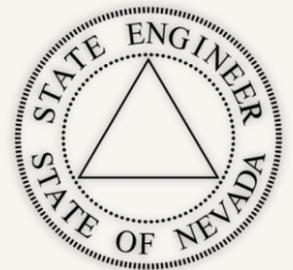


2016 Humboldt River Irrigation Season

Other issues:

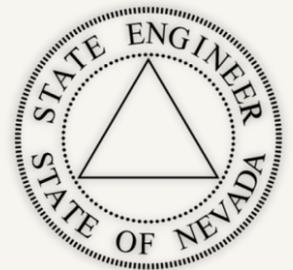
- Headgates
- Measuring devices on the river
- No free water, per decree going to enforce those issues
 - GW users are having to measure

General comments from Kirk and Steve



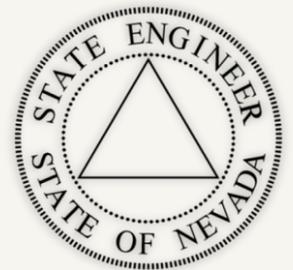
Overview of Recent Actions/Events

- New applications to appropriate groundwater now being reviewed with close consideration of potential conflict
- Change applications to move water close to river/tributaries being denied
- Pursuing water rights / augmentation to be required for pit lakes



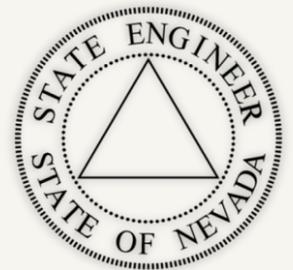
Humboldt River Basin Meter Orders

- Total of 1,500 wells will require meters
- 835 installations filed as of 4/1/16
- All wells to be inspected in April and May
- Wells out of compliance will be tagged with CEASE AND DESIST order
- Failure to comply will be subject to penalties pursuant to NRS 534.193



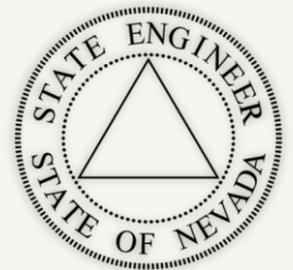
Legal Actions

- Petition for Writ of Mandamus (or Writ of Prohibition) filed by PCWCD
 - Order State Engineer to declare all groundwater basins Critical Management Areas
 - Regulate basins by priority to perennial yield
 - Eliminate the capture of surface water by groundwater pumping
 - Treat mining water rights as permanent rights, not temporary rights
- Case is pending



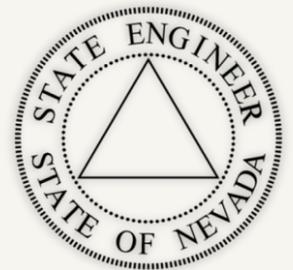
Governor's Drought Forum Recommendations

- Water Conservation Plans
- Installation of meters on all water use
- Use It or Lose It
- Thermoelectric power plants – dry cooled or similar water efficient technology
- Home Owners Associations – some CC&R's may be contrary to water conservation measures



Governor's Drought Forum Recommendations

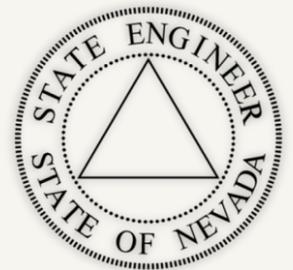
- Over-appropriated Basins
- Adaptive Management
- Clarify fundamental water management principles in statute
- Domestic wells – outside watering only during times of curtailment
- Explore exemption for small scale precipitation capture (rain barrels)
- Explore judicial education on water law



Legislative Commission's Subcommittee to Study Water

State Engineer “asks”:

- Over-appropriated basins
 - Flexibility for GWMPs
- Conjunctive management
 - Recognize need to utilize all sources of water
 - Ability to mitigate impacts to prevent conflicts with existing water rights
 - Maximize beneficial use
- Domestic wells
- Adaptive management



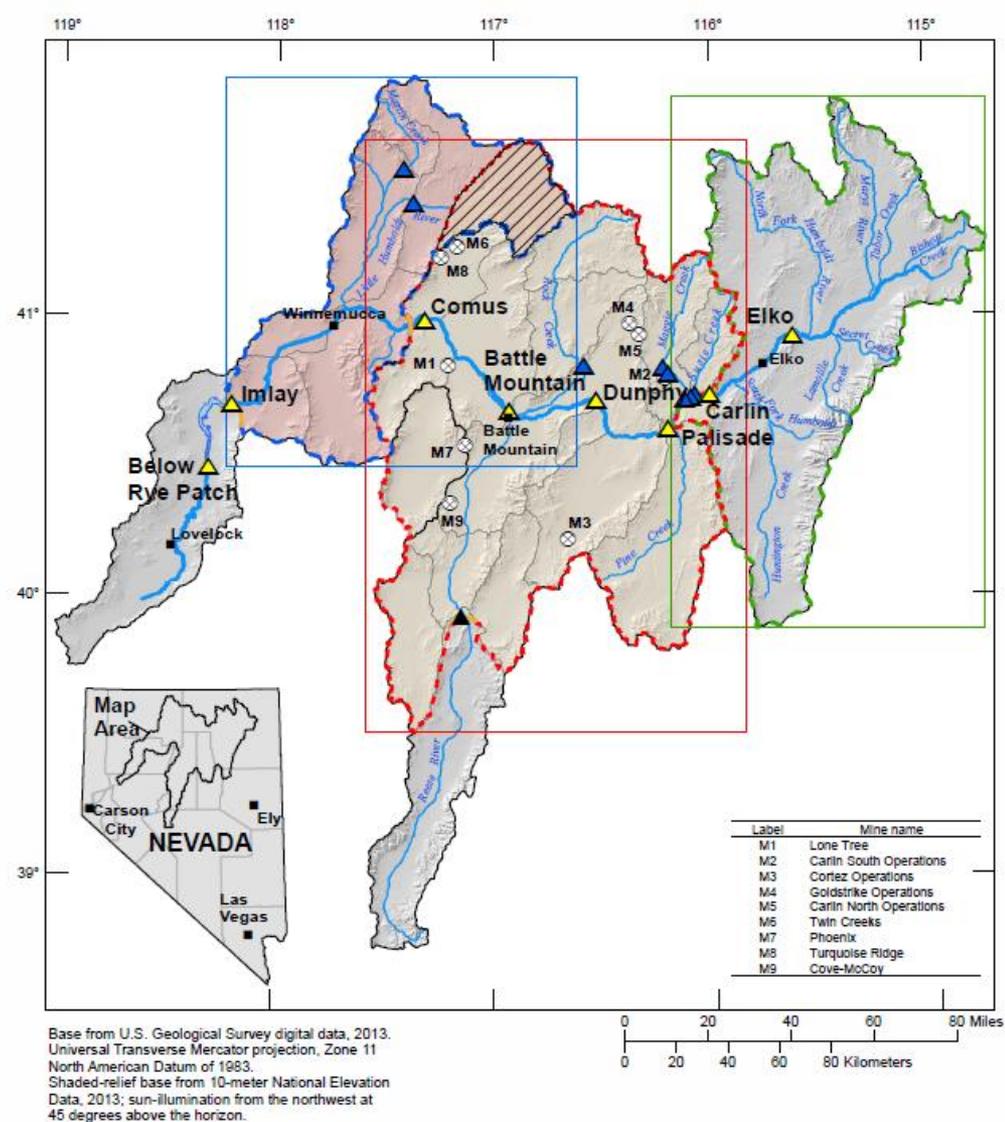
Planned Models

Three separate but connected models

DRI Upper Humboldt - update of existing model

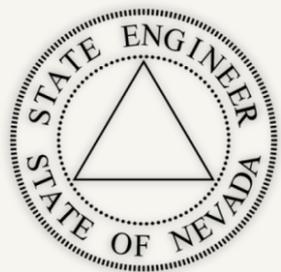
USGS Middle Humboldt - update of existing model

USGS Lower Humboldt - new model



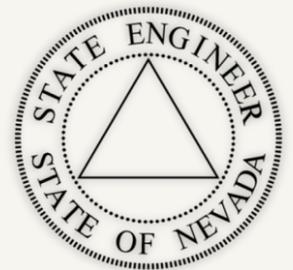
EXPLANATION

- Lower Humboldt River Basin model domain
- Lower Humboldt model grid
- Middle Humboldt River Basin model domain
- Middle Humboldt model grid
- Upper Humboldt River Basin model domain (DRI)
- Upper Humboldt model grid (DRI)
- Model overlap area
- Head-dependent boundaries
- Humboldt River
- Tributary
- ▲ Humboldt River real-time gage
- ▲ Tributary real-time gage
- ▲ Historic tributary gage
- ⊙ Mine dewatering



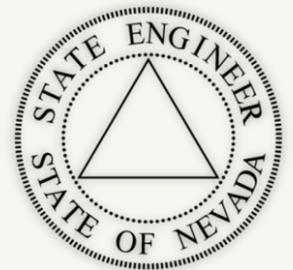
Humboldt River Capture Model

- Contracts call for informal quarterly updates
- Annual meetings in Lovelock, Winnemucca, Elko to update stakeholders (January)
- Model results expected in late 2018
- Final reports in 2019



Humboldt River Conjunctive Use

- We need to have a plan when capture analyses are complete
- Neighboring states approaches
 - Cooperative agreements between users/irrigation districts – State Engineer approval
 - Forbearance agreements
 - Financial compensation
 - Delivery of stored water
 - Non-cooperative mitigation agreements
 - Interstate compacts
 - Substitute water supply plans
 - Annual replacement plans
 - Reduction in groundwater pumping



Questions

